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PN - JP2002309157 A 20021023

PD - 2002-10-23

PR - JP20010118034 20010417

OPD - 2001-04-17

TI - INFRARED LIGHT-SHIELDING COATING FOR TRANSPARENT BASE MATERIAL, AND COATING FILM-FORMING METHOD AND TRANSPARENT BASE MATERIAL

IN - MIKI KATSUO;MIKI NOBUNORI;NOUE KOICHI

PA - NIPPON PAINT CO LTD;MIKI KATSUO

IC - C09D133/14 ; B05D1/28 ; B05D5/06 ; B05D7/24 ; B32B7/02 ; B32B27/30 ; C09D5/33 ; C09D183/02 ; C09K3/00

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TI - IR rays shielding coating for transparent substrates contains resin composition and tin-containing indium oxide coating layers

PR - JP20010118034 20010417

PN - JP2002309157 A 20021023 DW200313 C09D133/14 008pp

PA - (MIKI-I) MIKI K

- (NIPA) NIPPON PAINT CO LTD

IC - B05D1/28 ;B05D5/06 ;B05D7/24 ;B32B7/02 ;B32B27/30 ;C09D5/33 ;C09D133/14 ;C09D183/02 ;C09K3/00

AB - JP2002309157 NOVELTY - A novel IR rays shielding coating composition (P1) for transparent substrates contains a resin composition (A) and tin-containing indium oxide (B) that has a primary article diameter of 0.01-0.1 micron.

- DETAILED DESCRIPTION - A novel IR rays shielding coating composition (P1) for transparent substrates contains a resin composition (A) and tin-containing indium oxide (B) that has a primary article diameter of 0.01-0.1 micron. (A) contains a hydroxyl group-containing acrylic resin (A-1) that has a number average molecular weight of 1,000-50,000 and a tetrafunctional silicon compound of formula (I) and/or its condensed derivative (A-2).

- R's = each 1-10C alkyl or alkoxyalkyl; and

- n = integer of 1-20.

- In (P1), (A) has an (A-1)/(A-2) solid weight ratio of 10/1-1/3 and an (A)/(B) solid weight ratio of 100/0.5-100/20.

- INDEPENDENT CLAIM are also included for:

- (1) a novel formation (M) of coating layers that comprises a process in which (P1) is coated on the surface of a transparent substrate; and

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- (2) a novel transparent substrate (P2) that has a coating layer formed by means of (M).
- USE - (P1) is suitable for surface coating transparent substrates like glass and plastics, such as window glasses of buildings and/or automobiles to impart IR rays shielding effect to them. (P2) is used for lowering the inside temperature of structures formed using it by shielding IR rays.
- ADVANTAGE - (P1) forms coating layers that exhibits excellent IR rays shielding effect and adhesion to various transparent substrates and high transmission ratio of visible light.
- (Dwg.0/2)

OPD - 2001-04-17

AN - 2003-132501 [13]

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TI - INFRARED LIGHT-SHIELDING COATING FOR TRANSPARENT BASE MATERIAL, AND COATING FILM-FORMING METHOD AND TRANSPARENT BASE MATERIAL

AB - PROBLEM TO BE SOLVED: To provide an infrared light-shielding coating for a transparent base material which gives a coating film having a high transmittance in the visible light region, excellent in infrared light-shielding properties and exhibiting excellent performances such as adhesion and the like.

- SOLUTION: The infrared light-shielding coating for a transparent base material comprises (A) a resin composition containing (A-1) an acrylic resin bearing a hydroxy group with a number-average molecular weight of 1,000-50,000 and (A-2) a tetrafunctional silicon compound represented by the general formula (1) (wherein R is the same or different from each other and is a 1-10C alkyl or alkoxyalkyl group; and n is an integer of 1-20) and/or a condensate thereof, and (B) a tin-containing indium oxide having a primary particle size of 0.01-0.1 μ m, where the solid content weight ratio of (A-1) the acrylic resin to (A-2) the tetrafunctional silicon compound and/or a condensate thereof is 10/1-1/3 and the solid content weight ratio of (A) the resin composition to (B) the tin-containing indium oxide is 100/0.5-100/20.

I - C09D133/14 ;B05D1/28 ;B05D5/06 ;B05D7/24 ;B32B7/02

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